

# Recovery Plan Action Status

Plan Name: Puritan Tiger Beetle

Plan Status: Final

Plan Date: 29-Sep-93

Lead Agency: USFWS

Lead Office: Chesapeake Bay Ecological Services Field Office

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573-4500 )

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Puritan tiger beetle (Cicindela puritana)	1	1	Monitor C. puritana adults	Ongoing Current	Prior to FY 1995		Region 5, Division of Ecological Services, State Management Agency, Private individual or organization	Research: Population Surveys	Species Expert	Plus 5K/yr for 12 years
Puritan tiger beetle (Cicindela puritana)	2	10	Study the effects of recreational use on beetle habitat and survival	Complete	FY 1995 - FY 1999	FY 1995 - FY 1999	Region 5, Division of Ecological Services, State Management Agency, Private individual or organization	Research: Management Techniques	Graduate Student	
Puritan tiger beetle (Cicindela puritana)	2	11	Determine natural limiting factors	Complete	Prior to FY 1995	FY 2009	Region 5, Division of Ecological Services, State Management Agency, Private individual or organization	Research: Habitat Requirements	Contract, Species Expert	A three-year study was completed in FY2009 identifying microhabitat factors, strata preferences and particle size of larval cliff habitat and other factors affecting population size and fluctuations.
Puritan tiger beetle (Cicindela puritana)	2	12	Examine limiting factors specific to Connecticut River sites	Partially Complete	Prior to FY 1995		Region 5, Division of Ecological Services, State Management Agency	Research: Habitat Requirements	Species Expert	
Puritan tiger beetle (Cicindela puritana)	2	13	Determine the importance of dispersal	Partially Complete	FY 2000 - FY 2004		Region 5, Division of Ecological Services, State Management Agency	Research: Migration	Contract, Species Expert	A mark/recapture study to estimate beetle dispersal was conducted in 2003, but too few dispersing beetles were recaptured to provide statistically meaningful results
Puritan tiger beetle (Cicindela puritana)	2	14	Analyze genetic variability	Complete	Prior to FY 1995	Prior to FY 1995	Region 5, Division of Ecological Services, State Management Agency	Research: Taxonomic Studies	Labor type not yet selected	Further assessments may be required for future reintroductions

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Puritan tiger beetle (Cicindela puritana)	2	15	Develop techniques for captive rearing	Complete	FY 2005	FY 2008	Region 5, Division of Ecological Services, State Management Agency, Private individual or organization	Work type not yet selected	Graduate Student	Ongoing funding will be necessary for implementation of proven techniques. Additional funds, 36K total for 12 years
Puritan tiger beetle (Cicindela puritana)	2	16	Identify, acquire access to, and prepare reintroduction sites	Partially Complete	FY 2000 - FY 2004		The Nature Conservancy, Region 5, Division of Ecological Services, State Management Agency	Management: Reintroduction	Contract	Rainbow Beach, on the Connecticut River was selected as a reintroduction site and reintroduction was begun in 2000.
Puritan tiger beetle (Cicindela puritana)	2	17	Design and test reintroduction protocol	Complete	FY 2000 - FY 2004	FY 2000 - FY 2004	Region 5, Division of Ecological Services, State Management Agency	Work type not yet selected	Contract	Done for New England site (Rainbow Beach)
Puritan tiger beetle (Cicindela puritana)	2	18	Conduct reintroductions and monitor results	Ongoing Current	FY 2000 - FY 2004		Region 5, Division of Ecological Services, State Management Agency	Management: Reintroduction	Contract	Reintroduction (augmentation of existing population) was carried out from 2000 through 2003 at Rainbow Beach, Massachusetts.  Plus 5K/yr for 5 years
Puritan tiger beetle (Cicindela puritana)	2	19	Coordinate implementation of the recovery program	Ongoing Current	Prior to FY 1995		Region 5, Division of Ecological Services, State Management Agency, Private individual or organization	Work type not yet selected	Labor type not yet selected	
Puritan tiger beetle (Cicindela puritana)	1	2	Pursue long-term protection of priority sites	Partially Complete	Prior to FY 1995		Region 5, Division of Ecological Services, State Management Agency, Private individual or organization	Acquisition: Easement	Internal Technical Assistance	Does not include cost of land acquisition
Puritan tiger beetle (Cicindela puritana)	3	20	Examine possibilities for shoreline erosion control in Maryland	Ongoing Current	FY 2005	FY 2015	Region 5, Division of Ecological Services, State Management Agency	Management: Habitat Maintenance and Manipulation	Contract	Monitoring and Adaptive Management programs are underway for two types of structures: reef-ball breakwaters and near-shore breakwaters.

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Puritan tiger beetle (Cicindela puritana)	3	21	Conduct morphometric and breeding behavior studies	Complete	Prior to FY 1995	Prior to FY 1995	Region 5, Division of Ecological Services, State Management Agency	Work type not yet selected	Species Expert	
Puritan tiger beetle (Cicindela puritana)	3	22	Conduct a public education program	Ongoing Not Current	Prior to FY 1995		Region 5, Division of Ecological Services, State Management Agency, Private individual or organization	Work type not yet selected	Labor type not yet selected	
Puritan tiger beetle (Cicindela puritana)	1	3	Pursue landowner contacts for known populations	Ongoing Current	Prior to FY 1995		The Nature Conservancy, Region 5, Division of Ecological Services, State Management Agency	Work type not yet selected	Labor type not yet selected	Plus 1K/yr for 12 years. Considerable progress has already been made
Puritan tiger beetle (Cicindela puritana)	1	4	Use existing laws and regulations to protect the beetle populations	Ongoing Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Law Enforcement Division, Region 5, Division of Ecological Services, State Management Agency	Work type not yet selected	Internal Field Assistance	Plus 3K/yr for 12 years
Puritan tiger beetle (Cicindela puritana)	2	5	Monitor C. puritana larvae	Ongoing Current	Prior to FY 1995		Region 5, Division of Ecological Services, State Management Agency, Private individual or organization	Work type not yet selected	Labor type not yet selected	Has been done at New England sites. No practical way has been found to accomplish this task for Chesapeake Bay sites.
Puritan tiger beetle (Cicindela puritana)	2	6	Search for additional populations	Partially Complete	Prior to FY 1995		Region 5, Division of Ecological Services, State Management Agency	Work type not yet selected	Labor type not yet selected	
Puritan tiger beetle (Cicindela puritana)	2	7	Determine population and habitat viability	Complete	FY 2000 - FY 2004	FY 2009	Region 5, Division of Ecological Services, State Management Agency, Private individual or organization	Work type not yet selected	Species Expert	A Population Viability Analysis was completed for the Puritan tiger beetle in February 2005. A habitat viability study was completed in May 2009 (see Task 11).

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Puritan tiger beetle (Cicindela puritana)	2	8	Identify additional protection needs	Ongoing Current	Prior to FY 1995		The Nature Conservancy, Region 5, Division of Ecological Services, State Management Agency	Work type not yet selected	Labor type not yet selected	This task will require funding primarily on an as-needed basis
Puritan tiger beetle (Cicindela puritana)	2	9	Implement management natural population sites	Ongoing Current	FY 2006		Region 5, Division of Ecological Services, State Management Agency	Work type not yet selected	Contract, Internal Field Assistance, Species Expert	Plus 20K/yr for 3 years. In FY 2008, a three-year project on the Sassafras River in Maryland has been completed to control vegetation and restore tiger beetle cliff habitat at one site along the Sassafras River. This project has shown success in removing vegetation; additional years of PTB population monitoring will be needed to confirm beneficial effects on PTB population here. Based on the success of this project, we are planning to apply for grants to conduct similar restoration projects at additional sites on the Sassafras River. Invasive vegetation control is continuing at New England PTB sites.